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GUEST EDITORIAL: SEA TURTLE CONSERVATION AND MANAGEMENT, THE NEED FOR A UNIT STOCK APPROACH

Two major problems in sea turtle conservation and management need attention. The first stems from the Convention on International Trade in Endangered Species' (CITES) definition of a "population" of Appendix I species (New Delhi, India, 1981, Conf. 3.15) as that which occurs within the jurisdiction of [CITES] parties. Rather than using this definition for populations of wide-ranging, migratory species such as sea turtles, the concept of unit stock or management unit should be applied. Well established definitions of unit stock or management unit have been used in the management of many migratory marine resources (e.g., tuna, salmon, whales). Whether one uses ideal or working definitions of unit stock, it is fundamental that unit stock be defined, and this is no less true for sea turtles than for other living marine resources. If the best available data are inadequate to characterize unit stocks of marine turtles, geographic regions (e.g., northern half of the Atlantic Ocean and the Gulf of Mexico for Kemp's ridley, Lepidochelys kempi) could be used instead as starting points for international conservation and management until more data were collected by the usual techniques (tagging, morphometric-meristic, physiological, biochemical, etc.) to delineate the stocks. Certainly, most marine turtle biologists would agree that coastal States' jurisdictions represent only small portions of any sea turtle species' unit stock. Such a definition of "population" may encourage a coastal nation to carry out activities which may not benefit the unit stock of a sea turtle species as a whole.

Second, CITES is an international, trade-regulating treaty and not a sea turtle conservation and management treaty (Navid, 1982), yet sea turtle ranching (a kind of management) is being considered by CITES. International conservation and management of sea turtles are needed via international commissions or treaties, whether regional or worldwide. These could provide for co-lateral sea turtle conservation and management plans and actions by member nations. An example of the beginnings of such as approach may be the International Accords for the Management of Sea Turtle Resources of the East Pacific (Jack Woody, U.S. Fish and Wildlife Service, personal communication). As in salmon stocks, reproduction in sea turtles is confined to sites within a coastal State's

(Nation's) jurisdiction, yet sea turtles roam the high seas and traverse the jurisdictional boundaries of many nations. Therefore, some parallels applicable to sea turtle conservation and management might be found in the management of Pacific salmon stocks through international treaty. In any case, conservation and management of sea turtles based on the concept of unit stock should be a focus of attention worldwide.

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LEATHERBACK TURTLES DISAPPEARING FROM THE BVI

Introduction

The leatherback sea turtle (Dermochelys coriacea) is a declining species in the British Virgin Islands (BVI). The leatherback, the largest and most pelagic of the sea turtles, typically weighs 300-500 kg. The species lacks a bony shell and cornified epidermal scales; the smooth, black skin is spotted with white. The carapace is strongly tapered, generally measures 130-165 cm in length (straightline, nuchal notch to posterior tip) and is raised into seven prominent ridges. Powerful front flippers extend nearly the length of the body. Leatherbacks, known locally as "Trunks", are seasonal visitors, migrating from temperate foraging grounds to nest on BVI beaches between March and July. Evidence suggests that historical nesting was higher than it is now (Eckert and Lettsome, 1988). Some BVI beaches were named after the turtle (e.g., Trunk Bay) and presumably the species once nested to some degree in these areas, but does not do so today. Regular surveys of known nesting beaches conducted in 1987, 1988 and 1989 suggest that the leatherback may be in imminent danger of disappearing from the beaches and waters of the BVI, if it has not already done so.

Historical Background

The following history of the leatherback turtle in the BVI is condensed from Eckert and Lettsome (1988). Historically, the leatherback fishery was never as important economically as the hawksbill/green turtle fishery because of its seasonal nature and the fact that there was not a large market for the primary product derived from the animal, which was oil. However, what the fishery lacked in economic importance, it made up for culturally. "Trunking" is deeply rooted in tradition and mysticism; some fishermen trace the roots of the fishery back to the days of slavery. There are several mystical aspects to the trunk fishery; the fishermen speak of music, unexplained movements in the vegetation, and maintain that they see turtle-shaped apparitions in the clouds that point to the beach where the female will lay her eggs.

Leatherbacks have traditionally been killed for meat and oil. The "Trunkers" or trunk fishermen (currently five in number and for the most part elderly) recount that 50-60 gallons of oil were rendered from a "big" leatherback and perhaps 35 from a "small" one. The exact is difficult to estimate because the oil is routinely poured into assorted household containers and the absolute volume rarely calculated. One source reported that 15 to 20 40-ounce bottles of oil were obtained from each turtle. Prices apparently range from US$ 20-40 per 40-ounce bottle. Drinking oil "makes you strong", and is sometimes reputed to have